



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,724	11/09/2001	Robert D. Bereman	VTOB.104A	6344

20995 7590 02/26/2003

KNOBBE MARTENS OLSON & BEAR LLP  
2040 MAIN STREET  
FOURTEENTH FLOOR  
IRVINE, CA 92614

EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant No.	Applicant(s)
	10/007,724	BEREMAN, ROBERT D.
Examiner	Art Unit	
Carlos Lopez	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-48 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_ is/are allowed.

6) Claim(s) 1-48 is/are rejected.

7) Claim(s) \_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-5.

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: in claim 23, the term 100vol.% filled.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1) Claim 32 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for smoke comprising a reduced amount of carcinogenic substance, does not reasonably provide enablement for a comparison to a smokable material alone without a catalyst. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The specification does not provide a comparison of a smokable material having the claimed catalyst and nitrite source with smokable material being "alone".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2) Claims 9-11, 13, 22-24, 32 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following terms lack antecedent basis in the claims:

Claim 9, "the catalytic particles".

Claim 10, "the at least one noble metal".

Claim 11, "said catalytic particles".

Claim 13, "the palladium".

In claim 32, it is unclear what smokable material "alone" means.

3) Claims 4, 22-23 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: a structural relationship between a filter and a smoking composition. Usually a filter is attached to a wrapped smoking composition, filter cigarette. Additionally the smoking composition of claim 4 and 26 do not require tobacco but yet it has tobacco-specific nitrosamines. Does the smoking composition lacking tobacco would have tobacco-specific nitrosamines? The smoking composition would be required to recite tobacco as its component in order to have tobacco-specific nitrosamines.

In claim 24 and 38, it is unclear what an "undesirable" component or substance is. Another desires what is undesirable. Additionally in claims 24, what process limitation forms a smokable material into a smoking composition?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) Claims 1,2, 4-13, 17, 24-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Dale et al (US 4,317,460). Dale discloses adding a metal catalyst to a cigarette (Column 1, lines 4 and 37-44). The metal catalysts are in particle form having a size below 50 microns (Column 6, line 58ff) with a micro-porous support (Column 3, lines 63ff). The micro-porous support has a pore diameter below 30Å(3nm) wherein the metal catalyst is deposited predominantly within the spores. Thus it is inherent that the metal catalyst would have a particle size below 3nm in order to be deposited within the micro-porous support. The catalytic material is a transition metal such as palladium (Column 5, line 33) is in combination with a nitrate salt source (Column 5, line 44).

As for claim 2, a cigarette comprises tobacco.

As for claim 4, 25-31, 35-37, and 40, 42-48 in view that the smoking composition would have the claimed metal catalytic particles and a nitrate source, a reduction of tobacco-specific nitrosamines and PAH is inherent.

As for claim 13, it is being treated as a product by process and thus palladium that is derived or acquired through the derivation of ammonium tetrachloropalladate would result in the same end product, a smoking composition having palladium.

As for claim 24 since the nitrate source is part of the catalyst system, the nitrate is added simultaneously with the applying of the metal catalyst.

As for claim 32 and 38, cigarette having the catalyst system are combusted in order for the cigarette to be smoked.

5) Claims 1-2, 4-21 and 24-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Bryant, Jr. et al (US 4,235,251). Bryant discloses adding a palladium metal catalyst to tobacco that is latered formed into a cigarette (Column 3, lines 13-17). The metal catalysts are in particle form having a size below 50 microns (Column 3, lines 13-17). The palladium being added to the tobacco at .01 to about .1% by weight (Column 3, lines 13-17) and is in combination with a nitrate salt source such as Mg(NO<sub>3</sub>)<sub>2</sub>.6H<sub>2</sub>O (Column 3, line 46) at a concentration below .8% (Column 4 line 8). Bryant also teaches that palladium may be used in a soluble or insoluble form wherein soluble palladium is defined as the filtrate passing through a filter membrane having a pore diameter of .45u (Column 4, line 54). Thus the palladium particles would inherently have a size smaller than .45u.

As for claim 12, the term about 200nm would include particles smaller than .45u (450nm).

As for claim 13, palladium may be derived from ammonium tetrachloropalladate (Column 3, line 6).

As for claim 4, 25-31, 35-37, and 40, 42-48 in view that the smoking composition would have the claimed metal catalytic particles and a nitrate source, a reduction of tobacco-specific nitrosamines and PAH is inherent.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) Claims 1-21 and 24-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman et al (US 4,216,784) in view of Dale et al (US 4,216,784). Norman discloses adding a palladium metal catalyst to tobacco that would be formed into a cigarette (Column 3, lines 5-17). The palladium being added to the tobacco at .001 to about 1% by weight (Column 4, lines 1) and is in combination with a nitrate salt source such as Mg(NO<sub>3</sub>)<sub>2</sub>.6H<sub>2</sub>O (Column 4, line 30-35) at a concentration below .8% (Column 5 line 30). The metal catalysts are in particle form having a size below 100 U.S Mesh (Column 5, lines 60). Norman is silent disclosing a particle size less than 20microns. However, as taught by Dale, a metal catalyst such as palladium deposited predominantly within the spores of a micro-porous support having a pore diameter below 30Å(3nm) results in an increase activity of the catalyst (Column 4, lines 11-16). Therefore palladium particles should be less than 3nm in order to be deposited within the spores of the catalyst support and thus take advantage of an increase activity by of the palladium catalyst. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have used Norman's palladium particles at a size of 3nm to allow it to be placed within a the pores of a support one in order to have an increased activity of the palladium catalyst as taught by Dale.

As for claim 3, reduced nicotine tobacco in cigarettes and known as "mild cigarettes" are notoriously known in the art.

As for claim 4, 25-31, 35-37, and 40, 42-48 in view that the smoking composition would have the claimed metal catalytic particles and a nitrate source, a reduction of tobacco-specific nitrosamines and PAH would be expected.

7) Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryant, Jr. et al (US 4,235,251) in view of Neukomm (US 4,201,234). Bryant is silent disclosing the type of cigarette filter used in the cigarette. However as taught by Neukomm, providing a cavity filter filled with activated carbon to a triple cigarette filter highly improves filtering capacity (Column 1, line 5ff and Column 2 line 1ff). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to used a triple cigarette filter as taught by Neukomm with Bryant's cigarette in order to increase filtering capacity that would enhance filtering of the mainstream smoke.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



STEVEN P. GRIFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

C.L  
February 12, 2003